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PTO/SB/21 (09-04) (AW 10/2004)

Approved for use through 7/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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| TRANSMITTAL FORM (to be used for all correspondence after initial filing) | Application Number | 10/820,185 |
| | Filing Date | April 7, 2004 |
| | First Named Inventor | James Kolodzey et al. |
| | Art Unit | 2828 |
| | Examiner Name | Unknown |
| | Attorney Docket No. | UOD-124US |
| Total Number of Pages in This Submission | | |

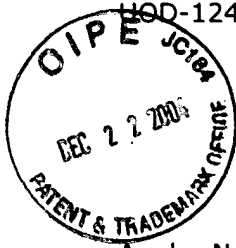
| ENCLOSURES (Check all that apply) | | |
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| <input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/Declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation, Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Form 1449, Return Receipt Card |
| Remarks: | | |

| SIGNATURE OF APPLICANT, ATTORNEY OR AGENT | | | |
|---|--------------------|------------------|--------|
| Firm Name | Ratner Prestia | | |
| Signature | | | |
| Printed Name | Costas S. Krikelis | | |
| Date | December 20, 2004 | Registration No. | 28,028 |

| CERTIFICATE OF TRANSMISSION / MAILING | | | |
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| Typed or Printed Name | Ruth Curran | Date | December 20, 2004 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Office, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, ALEXANDRIA, VA 22313-1450.

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HO-124US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No: 10/820,185
Applicant: James Kolodzey et al.
Filed: April 7, 2004
Title: TERAHERTZ FREQUENCY RADIATION SOURCES AND DETECTORS BASED
ON GROUP IV MATERIALS AND METHOD OF MANUFACTURE
TC/A.U.: 2828
Examiner: Unknown

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98 and to the duty of disclosure set forth in 37 C.F.R. § 1.56, the Examiner in charge of the above-identified application is requested to consider and make of record the references listed on the PTO 1449 (RP) submitted herewith. A copy of the references listed on the 1449 form, other than U.S. patents, is enclosed.

Although the information submitted herewith may be "material" to the Examiner's consideration of the subject application, this submission is not intended to constitute an admission that such information is "prior art" as to the claimed invention.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.

This Information Disclosure Statement is being filed within three months of the filing date of the above-referenced application or before mailing of the first Official Action. No first Official Action has yet been received and it is presumed that none has yet been mailed. No fee or statement is required. 37 C.F.R. § 1.97(b).

Respectfully submitted,

Costas S. Krikelis, Reg. No. 28,028
Attorney for Applicants

CSK:rc

UOD-124US



PATENT

Enclosures: PTO Form 1449
References (5)
Transmittal Form

Dated: December 20, 2004

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Substitute for Form 1449A/PTO

(Use as many sheets as necessary)

SHEET 1 of 2

Complete if Known

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| Application Number | 10/820,185 |
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| Filing Date | April 7, 2004 |
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| Art Unit | 2828 |
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| Examiner Name | Unknown |
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| Attorney Docket No. | UOD-124US |
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U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

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| Examiner Signature | | Date Considered | |
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

¹Applicant's unique citation designation number (optional).

²See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³Enter Office that issued the document, by the two-letter code (WIPO Standard St.3).

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Substitute for Form 1449B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

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| Application Number | 10/820,185 |
| Filing Date | April 7, 2004 |
| First Named Inventor | James Kolodzey et al. |
| Art Unit | 2828 |
| Examiner Name | Unknown |
| Attorney Docket No. | UOD-124US |

SHEET 2 of 2**NON-PATENT LITERATURE DOCUMENTS**

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | T ² |
|-----------------------|--------------------------|---|--------------------------|
| | 02 | T.N. ADAM, R.T. TROEGER, S.K. RAY, P.-C. LV, AND J. KOLODZEY; Terahertz electroluminescence from boron-doped silicon devices; Applied Physics Letters; September 1, 2003; pp 1713-1715; Vol. 83, No. 9; American Institute of Physics | <input type="checkbox"/> |
| | 03 | MIKIO FUJIWARA, TAKANORI HIRAO, MITSUNOBU KAWADA, HIROSHI SHIBAI, SHUJI MATSUURA, HIDEHIRO KANEDA, MIKHAIL PATRASHIN, AND TAKAO NAKAGAWA; Development of a gallium-doped germanium far-infrared photoconductor direct hybrid two-dimensional array; Applied Optics; April 20, 2003; pp 2166-2173; Vol. 42, No. 12; Optical Society of America | <input type="checkbox"/> |
| | 04 | SERGUEI G. PAVLOV, HEINZ-WILHELM HÜBERS, ROMAN KH. ZHUKAVIN, EKATERINA E. ORLOVA, HELGE RIEMANN and VALERY N. SHASTIN; Optically pumped terahertz silicon lasers; pp 93-96; 2002; IEEE | <input type="checkbox"/> |
| | 05 | I.V. ALTUKHOV, E.G. CHIRKOVA, V.P. SINIS, M.S. KAGAN, UY. P. GOUSEV, S.G. THOMAS, K.L. WANG, M.A. ODNOLYUDOV, I.N. YASSIEVICH; Towards Si _{1-x} Ge _x quantum-well resonant-state terahertz laser; Applied Physics Letters; December 10, 2001; pp 3909-3911; Vol. 79, No. 24; American Institute of Physics | <input type="checkbox"/> |
| | 06 | YU.P. GOUSEV, I.V. ALTUKHOV, K.A. KOROLEV, V.P. SINIS, M.S. KAGAN, E.E. HALLER, M.A. ODNOLYUDOV, I.N. YASSIEVICH and K.-A. CHAO; Widely tunable continuous-wave THz laser; August 9, 1999; pp 757-759; Vol. 75, No. 6; American Institute of Physics | <input type="checkbox"/> |
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¹Applicant's unique citation designation number (optional).²Applicant is to place a check mark here if English language translation is attached.